



## Comparison of individual and pooled samples for quantification of antimicrobial resistance genes in swine feces by high-throughput qPCR

Clasen, Julie; Mellerup, Anders; Olsen, J. E.; Angen, Øystein; Folkesson, Sven Anders; Hisham Beshara Halasa, Tariq; Toft, Nils; Birkegård, Anna Camilla

*Publication date:*  
2015

*Document Version*  
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*  
Clasen, J., Mellerup, A., Olsen, J. E., Angen, Ø., Folkesson, S. A., Hisham Beshara Halasa, T., Toft, N., & Birkegård, A. C. (2015). *Comparison of individual and pooled samples for quantification of antimicrobial resistance genes in swine feces by high-throughput qPCR*. Poster session presented at 2015 European College of Veterinary Public Health Annual Scientific Conference, Belgrade, Serbia.

---

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# Comparison of Individual and Pooled Samples for Quantification of Antimicrobial Resistance Genes in Swine Feces by High-throughput qPCR

J. Clasen, A. Møllerup, J. E. Olsen, Ø. Angen, A. Folkesson, T. Halasa, N. Toft, A. C. Birkegård<sup>1</sup>

<sup>1</sup>Technical University of Denmark, Denmark, <sup>2</sup>University of Copenhagen, Denmark, <sup>3</sup>Statens Serum Institut, Denmark

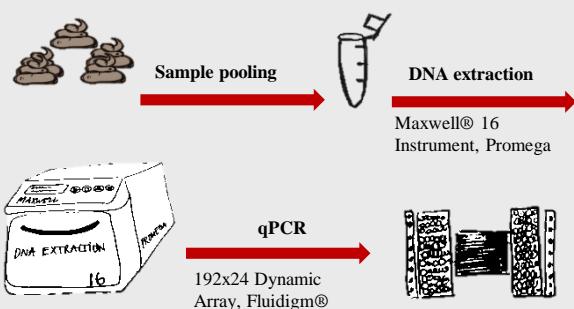
## OBJECTIVE

Determine the number of samples in a pool giving a representative sample for antimicrobial resistance gene quantification in Danish pig herds.

## SAMPLING

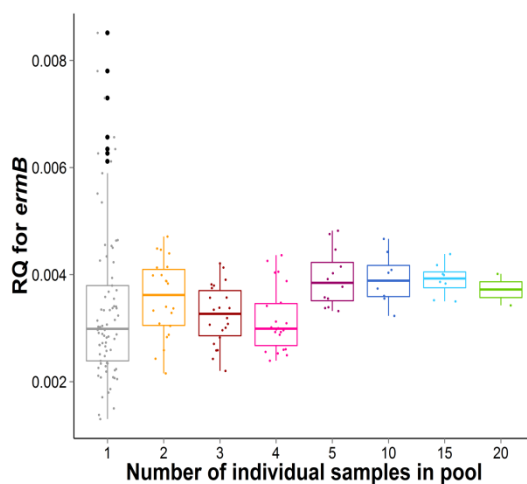
20 individual fecal samples were collected from a section in a Danish pig herd. One to five rectal fecal samples were taken from each pen with respect to the number of pigs in the pen. A total of 48 pools were made of increasing number of individual samples.

## MATERIALS AND METHODS

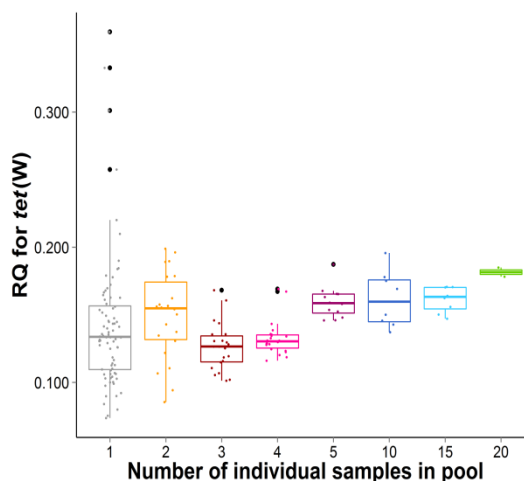


## RESULTS AND CONCLUSION

There were large variations in the levels of antimicrobial resistance genes between individual samples. As the number of samples in a pool increased a decrease in sample variation was observed. A steady state in the sample variation was seen when pooling five or more samples. No significant difference was found between pools of five samples and pools of more. There were highly significant differences between pools of five or more samples and pools of less samples. **Five samples in a pool is the optimal number.**



**Figure 1.** Relative quantification values (RQ) for *ermB* from individual samples and pooled samples.



**Figure 2.** Relative quantification values (RQ) for *tet(W)* from individual samples and pooled samples.

